Course Specification of Web Development

Course No (..................)

2020/2021

Head of Department	Vise Dean for Qulity Assurance	Dean of the Faculty	Dean of Development center and Quality Assurance
Assoc. Prof. Mansour N. Ali	Dr. Anwar Al-Shamiri	Dr. Nagi Al-Shibani	Assoc. Prof. Dr.Huda Al.Emad
			Rector of Sana'a University
			Prof. Dr. Qassim Mohammed Abbas

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وحدة ضمان الجودة

I. Course Identification and General Information:

1	Course Title:	Web Development				
2	Course Code & Number:					
3	Credit hours:	**C.H**				TOTAL
		Th.	Seminar	Pr	Tr.	
		2		2		3
4	Study level/ semester at which this course is offered:	3rd Level -1st Semester				
5	Pre –requisite (if any):	Web Design				
6	Co –requisite (if any):	OOP				
7	Program (s) in which the course is offered:	Information Technology				
8	Language of teaching the course:	English/Arabic				
9	Study System	Term Based System				
10	Mode of delivery:	Full Time				
11	Location of teaching the course:	Faculty of Computer and Information Technology				
12	Prepared By:	Dr.Ibrahim Al-Baltah				
13	Date of Approval					

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II.   Course Description:

The aim of this course is to introduce students with the necessary concepts, tools, and techniques

for developing the server-side processes of web applications. This course covers wide range to rel

topics including arrays and superglobals arrays, classes and objects, database, error handling and

validation, state management. This course should be taken after the web design course.

III. Course Intended learning outcomes (CILOs) of the course (maximum 8CILOs)		Referenced PILOs (Only write code number of referenced Program Intended learning outcomes
a.1	Demonstrate competency in the fundamental concepts and theories of developing web applications.	A1
a.2	Demonstrate an understanding of the importance of arrays, database, and state management for developing server-side process of web applications.	A5
b.1	Distinguish between the different required techniques that should be used during the process of developing web applications	B4
b.2	Examine how to use database and the related security issues	B3
c.1	Utilize different concepts and techniques during the process of web development process.	C1
c.2	Employ a sound approach in order to effectively develop the required web-based solutions.	C2
d.1	Effectively communicate, leadership management, team cooperation, labor division and moderate the integration of ability.	D2

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d.2	Work effectively within a team or individually to accomplish the assign project.	D1

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Demonstrate competency in the fundamental concepts and theories of developing web applications.	Active lectures, interactive class discussions, exercises and home works, laboratory based session, problem solving, interactive class discussions	Written tests, assignments
a2- Demonstrate an understanding of the importance of arrays, database, and state management for developing back-end web applications.	Active lectures, interactive class discussions, exercises and home works, laboratory based session, problem solving, interactive class discussions	Written tests, assignments

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

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Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Distinguish between the different required techniques that should be used during the process of developing web applications.	Active lectures, interactive class discussions, exercises and home works, laboratory based session, problem solving, interactive class discussions	Written tests, assignments, Coursework Activities, practical lab sessions
b2- Examine how to use database and the related security issues.	Active lectures, interactive class discussions, exercises and home works, laboratory based session, problem solving, interactive class discussions	Written tests, assignments, Coursework Activities, practical lab sessions

(C) **Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:**

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Utilize different concepts and techniques during the process of web development process.	Exercises and home works, laboratory based session, directed self- study/ Independent learning, Problem solving	Written tests, assignments, Coursework Activities, project, practical lab sessions
C2- Employ a sound approach in order to effectively develop the required web-based solutions.	Exercises and home works, laboratory based session, directed self- study/ Independent learning, Problem solving	Written tests, assignments, Coursework Activities, project, practical lab sessions

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(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Effectively communicate, leadership management, team cooperation, labor division and moderate the integration of ability.	Project, directed self-study/ independent learning, team work (group learning)	Assignments and project
d2- Work effectively within a team or individually to accomplish the assign project.	Project, directed self-study/ independent learning, team work (group learning)	Assignments and project

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	contact hours
1	Introduction to Server-Side Development with PHP	a1, b1, c1, c2	- What Is Server-Side Development? - A Web Server's Responsibilities - Quick Tour of PHP - Program Control - Functions	2 weeks	4
2	PHP Arrays and Superglobals	a1, a2, c1, c2	- Arrays - $_GET and $_POST Superglobal Arrays - $_SERVER Array - $_FILES Array Reading/Writing Files	2 weeks	4

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3	PHP Classes and Objects	a1, c1, c2	- Object-Oriented Overview - Classes and Objects in PHP - Object-Oriented Design	1 week	2
4	Working with Databases	a1, a2, b2, c1, c2	- Databases and Web Development - SQL - Database APIs - Managing a MySQL Database - Accessing MySQL in PHP	2 week	4
6	Error Handling and Validation	a1, c1, c2	- What Are Errors and Exceptions? - PHP Error Reporting - PHP Error and Exception Handling - Regular Expressions - Validating User Input - Where to Perform Validation	2 week	4
7	Managing State	a1, a2, c1, c2	- The Problem of State in Web Applications - Passing Information via Query Strings - Passing Information via the URL Path - Cookies - Serialization - Session State - HTML5 Web Storage - Caching	1 week	2
8	Web Application Design	a1, a2, c1, c2	- Real-World Web Software Design - Principle of Layering - Software Design Patterns in the Web Context - Data and Domain Patterns - Presentation Patterns	3 weeks	6
9	Final Project Discussion	d1, d2		1 week	2
Number of Weeks /and Units Per Semester				**14**	**28**

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B - Practical Aspect: (if any)

Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	Introduction to Server-Side Development with PHP	2	4	a1, b1, c1, c2
2	PHP Arrays and Superglobals	2	4	a1, a2, c1, c2
3	PHP Classes and Objects	2	4	a1, c1, c2
4	Working with Databases	2	4	a1, a2, b2, c1, c2
5	Error Handling and Validation	2	4	a1, c1, c2
6	Managing State	1	2	a1, a2, c1, c2
7	Web Application Design	3	6	a1, a2, c1, c2
8	Final Project Discussion	1	2	a1, a2, b1, b2, c1, c2, d1, d2
Number of Weeks /and Units Per Semester: 15			30	

V. Teaching strategies of the course:

Active lectures

Seminar/ project/presentation

Interactive class discussions

Exercises and home works

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Laboratory based session
Directed self- study/ Independent learning
Problem solving
Team work (group learning)

VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Every student should develop a web page to represents some uploaded images with some explanation for each image which are stored in arrays.	a1,a2,b1,b2 ,c1,c2	7th week	5
2	Students should be divided into groups, and each group must develop a full web application which should perform insert, update, delete, and select operations against the stored data in a database.	a1,a2,b1,b2,c1,c2,d1,d2	15th week	25

VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes

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1	Assignments	7th week	5	5%	a1,a2,b1,b2 ,c1,c2
2	Mid exam	8th week	10	10%	a1,a2,b1,b2 ,c1,c2
3	Final project	15th week	25	25%	a1,a2,b1,b2,c1,c2,d1,d2
4	Final exam	16th week	60	60%	a1,a2,b1,b2 ,c1,c2

VIII. Learning Resources:

- *Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s) (maximum two).

1- Randy Connolly and Ricardo Hoar – 2017 - Fundamentals of Web Development – 2nd Edition **–** Pearson.
2- Abiramasundhari Singaravelan – 2019 - Developing web applications using PHP: PHP web development – 1st Edition – Home of Programming.

2- Essential References.

1- Robin Nixon – 2018 - Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 – 5th Edition - O'Reilly Media.
2- Josh Lockhart - 2015 - Modern PHP: New Features and Good Practices - O'Reilly Media.

3- Electronic Materials and Web Sites *etc*.

1- https://www.w3schools.com/PHP/DEfaULT.asP
2- https://www.tutorialspoint.com/php/index.htm
3- https://www.phptpoint.com/php-tutorial/
4- https://www.javatpoint.com/php-tutorial
5- https://www.tutorialrepublic.com/php-tutorial/

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IX.	Course Policies:
	Unless otherwise stated, the normal course administration policies and rules of the Faculty of Computer and Information Technology apply. For the policy, see: ----------------------------------- -- The University Regulations on academic misconduct will be strictly enforced. Please refer to -------- ----
1	**Class Attendance:** A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic
2	**Tardy:** For late in attending the class, the student will be initially notified. If he repeated lateness in attending class, he will be considered as absent.
3	**Exam Attendance/Punctuality:** A student should attend the exam on time. He is Permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.
4	**Assignments & Project** The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time.
5	**Cheating:** For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.
6	**Plagiarism:** Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination. - Lecture notes and assignments my given directly to students using soft or hard copy

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Faculty of Computer & Information Technology

Department of Computer Science

Program of Computer Science

Course Specification of Web Development

Course No (..................)

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I. - Information about Faculty Member Responsible for the Course:

Name of Faculty Member		Office Hours					
		SAT	**SUN**	**MON**	**TUE**	**WED**	**THU**
Location& Telephone No.							
E-mail							

II. Course Identification and General Information:

1-	**Course Title:**	Web Development				
2-	**Course Number & Code:**					

		C.H				Total
		Th.	**Seminar**	**Pr.**	**F. Tr.**	
3-	**Credit hours:**	theory	Seminars, exercises..	practical	Field, training	

4-	**Study level/year at which this course is offered:**	3rd Level -1st Semester
5-	**Pre –requisite (if any):**	Web Design
6-	**Co –requisite (if any):**	OOP
7-	**Program (s) in which the course is offered**	Information Technology
8-	**Language of teaching the course:**	English/Arabic
9-	**System of Study:**	Term Based System

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10-	**Mode of delivery:**	Full Time
11-	**Location of teaching the course:**	Faculty of Computer and Information Technology

III. Course Description:

The aim of this course is to introduce students with the necessary concepts, tools, and techniques

for developing the server-side processes of web applications. This course covers wide range to rel

topics including arrays and superglobals arrays, classes and objects, database, error handling and

validation, state management. This course should be taken after the web design course.

IV. Intended learning outcomes (ILOs) of the course:

- Brief summary of the knowledge or skill the course is intended to develop:

1. Demonstrate competency in the fundamental concepts and theories of developing we applications.
2. Demonstrate an understanding of the importance of arrays, database, and state management for developing back-end web applications.
3. Distinguish between the different required techniques that should be used during the process of developing web applications
4. Examine how to use database and the related security issues
5. Utilize different concepts and techniques during the process of web development process.
6. Employ a sound approach in order to effectively develop the required web-based solutions.
7. Effectively communicate, leadership management, team cooperation, labor division a moderate the integration of ability.
8. Work effectively within a team or individually to accomplish the assign project.

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V. Course Content:

- Distribution of Semester Weekly Plan of Course Topics/Items and Activities.

A – Theoretical Aspect:

Order	Topics List	Week Due	Contact Hours
1	Introduction to Server-Side Development with PHP	1st and 2nd week	4
2	PHP Arrays and Superglobals	3rd and 4th week	4
3	PHP Classes and Objects	5th week	2
4	Working with Databases	6th and 7th week	4
5	Mid Exam	8th week	2
6	Error Handling and Validation	9th and 10th week	4
7	Managing State	11th week	2
8	Web Application Design	12th, 13th and 14th week	6
9	Final Project Discussion	15th week	2
10	Final Exam	16th week	2
Number of Weeks /and Units Per Semester		**16**	**32**

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B – Practical Aspect: *(if any)*

Order	Topics List	Week Due	Contact Hours
1	Introduction to Server-Side Development with PHP	1st and 2nd week	4
2	PHP Arrays and Superglobals	3rd and 4th week	4
3	PHP Classes and Objects	5th week	4
4	Working with Databases	6th and 7th week	4
5	Error Handling and Validation	8th and 9th week	4
6	Managing State	10th week	2
7	Web Application Design	11th, 12th,13th week	6
8	Final Project Discussion	14th and 15th week	2
Number of Weeks /and Units Per Semester		**15**	**30**

VI. Teaching strategies of the course:

Active lectures
Seminar/ project/presentation
Interactive class discussions
Exercises and home works
Laboratory based session

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| Directed self- study/ Independent learning |
| Problem solving |
| Team work (group learning) |

VII. Assignments:

No	Assignments	Week Due	Mark
1	Every student should develop a web page to represents some uploaded images with some explanation for each image which are stored in arrays.	7th week	5
2	Students should be divided into groups, and each group must develop a full web application which should perform insert, update, delete, and select operations against the stored data in a database.	15th week	25

VIII.   Schedule of Assessment Tasks for Students During the Semester:

Assessment	Type of Assessment Tasks	Week Due	Mark	Proportion of Final Assessment
1	Assignments	7th week	5	5%
2	Mid exam	8th week	10	10%
3	Final project	15th week	25	15%
4	Final exam	16th week	60	60%

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وحدة ضمان الجودة

IX. Learning Resources:

- Written in the following order: (Author – Year of publication – Title – Edition – Place of publication – Publisher).

1- Required Textbook(s) (maximum two).

1- Randy Connolly and Ricardo Hoar – 2017 - Fundamentals of Web Development – 2nd Edition – Pearson.
2- Abiramasundhari Singaravelan – 2019 - Developing web applications using PHP: PHP web development – 1st Edition – Home of Programming.

2- Essential References.

3- Robin Nixon – 2018 - Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5 – 5th Edition - O'Reilly Media.
4- Josh Lockhart - 2015 - Modern PHP: New Features and Good Practices - O'Reilly Media.

3- Electronic Materials and Web Sites *etc*.

1- https://www.w3schools.com/PHP/DEfaULT.asP
2- https://www.tutorialspoint.com/php/index.htm
3- https://www.phptpoint.com/php-tutorial/
4- https://www.javatpoint.com/php-tutorial
5- https://www.tutorialrepublic.com/php-tutorial/

X. Course Policies:

Unless otherwise stated, the normal course administration policies and rules of the Faculty of Computer and Information Technology apply. For the policy, see: -----------------------------------

The University Regulations on academic misconduct will be strictly enforced. Please refer to -------------

1	**Class Attendance:** A student should attend not less than 75 % of total hours of the subject; otherwise he will not be able to take the exam and will be considered as exam failure. If the student is absent due to illness, he/she should bring a proof statement from university Clinic
2	**Tardy:** For late in attending the class, the student will be initially notified. If he repeated lateness in attending class he will be considered as absent.

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3	**Exam Attendance/Punctuality:** A student should attend the exam on time. He is Permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.
4	**Assignments & Project** The assignment is given to the students after each chapter; the student has to submit all the assignments for checking on time.
5	**Cheating:** For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.
6	**Plagiarism:** Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university.
7	**Other policies:** - Mobile phones are not allowed to use during a class lecture. It must be closed, otherwise the student will be asked to leave the lecture room - Mobile phones are not allowed in class during the examination. - Lecture notes and assignments my given directly to students using soft or hard copy

اللجنة الإشرافية

م.	الاســـم	الصــــــفة	التوقيع
١	أ.م.د. عبد الماجد الخليدي	نائب عميد الكلية للشؤون الأكاديمية	
٢	أ.م.د. احمد مجاهد	نائب عميد مركز التطوير الأكاديمي وضمان الجودة	
٣	د. حسين الأشول	ممثل المركز في الكلية	
٤	أ.د. إبراهيم المطاع	نائب رئيس الجامعة للشؤون الأكاديمية	

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